APR/FY06

CAMP CROWDER TRAINING SITE

Missouri

Army Defense Environmental Restoration Program Installation Action Plan

Final 30 August 2006

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Camp Crowder Army National Guard (ARNG) Training Center, National Guard Bureau (NGB), and regulatory agencies, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan during a planning workshop held on 12 April 2006:

Company/Installation/Branch
ECC/USAEC
EEI for USAEC
ICI, llc/USAEC
MDNR
MOARNG
USAEC
US EPA

Acronyms & Abbreviations

ACSIM	Assistant Chief of Staff for Installation Management
AEDB-R	Army Environmental Database Restoration
CAG	Community Advisory Group
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CRP	Community Relations Plan
CTA	Components Test Area
DA	Department of the Army
DCE	cus-1,2-dichloroethlylene
DD	Decision Document
DHSS	Department of Health and Senior Services
DoD	Department of Defense
EPA	United States Environmental Protection Agency
ER,A	Environmental Restoration, Army
ETA	Engine Test Area
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
GIS	Geographic Information System
gpm	gallons per minute
GW	groundwater
HRS	Hazard Ranking Score
IAG	Interagency Agreement
IAP	Installation Action Plan
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTC	Lieutenant Colonel
LTM	Long-Term Management
LUC	Land Use Controls
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MDNR	Missouri Department of Natural Resources
mg/L	milligrams per liter
MILCON	Military Construction
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MOARNG	Missouri Army National Guard
NCP	National Oil & Hazardous Substances Contingency Plan
NFA	No Further Action
NGB	National Guard Bureau
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation & Maintenance
OBG	Open Burning Grounds
OU	Operable Unit
PA	Preliminary Assessment

Acronyms & Abbreviations

Pb	Lead
PBC	Performance Based Contract
PCB	Polychlorinated Biphenyls
POL	Petroleum, Oil & Lubricants
PP	Proposed Plan
ppb	parts per billion
ppm	parts per million
PRG	Preliminary Remediation Goals
PRP	Potentially Responsible Parties
QM	Quarter Master
RA	Remedial Action
RA(C)	Remedial Action – Construction
RA(O)	Remedial Action – Operation
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDX	Cyclotrimethylenetrinitramine
REM	Removal
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy In Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
S&A	Supervision and Administration
S&R	Supervision & Reporting
SAA	Source Area Assessment
SI	Site Inspection
SSI	Supplemental Site Investigation
SVOC	Semi Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation
TCE	Tetrachlorethylene
TNT	2,4,6-trinitrotoluene
TRC	Technical Review Committee
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (currently called USACHPPM)
USATHAMA	United States Army Toxic and Hazardous Material Agency (currently called USAEC)
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VMA	Vehicle Maintenance Area
VOC	Volatile Organic Compounds

Installation Information

Installation Locale: Camp Crowder Training Site is located in Newton County in southwestern Missouri. A portion of the installation is within the city limits of Neosho (population ~10,000). Camp Crowder Training Site has a total size of 4,300 acres.

Installation Mission: The Missouri National Guard will provide motivated, deployable soldiers, airmen and units to meet the military and civil objectives of the Governor of Missouri and the President of the United States.

Lead Organization:
Headquarters, National Guard Bureau

Lead Executing Agency: USAEC

Regulator Participation:
US Environmental Protection Agency, Region 7
Missouri Department of Natural Resources (MDNR)

National Priorities List (NPL) Status: October 19, 1999
One site on Camp Crowder the Engine Test Area (CC-004) is part of the NPL – listed Pools Prairie Superfund Site.

***Projected Dates for Construction Completion*:** 2007.

Projected Date for NPL Removal: The removal date from the NPL cannot be projected because activities at other source areas are not under the control of Army (USAEC and NGB).

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status: A Community Relations Plan (CRP) was completed in February 1999. It was determined at that time that public interest is insufficient to sustain a Restoration Advisory Board (RAB).
A Community Advisory Group (CAG) exists, with support from USEPA. The CAG is interested in all Pools Prairie Superfund Site activities, including those at Camp Crowder. The CAG is kept informed of all IRP activities at bi-annual meetings.
No potential Technical Assistance for Public Participation (TAPP) projects has been identified.
All Potentially Responsible Parties (PRPs) associated with Pools Prairie Superfund Site are kept informed of IRP activities at Camp Crowder through technical review meetings held bimonthly.
An Administrative Record File is maintained at Camp Crowder, and a Public Information File is maintained at Neosho City Hall and USEPA Region VII offices in Kansas City, Kansas.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Volatile Organic Compounds (VOCs), Petroleum Hydrocarbons (POLs) Polychlorinated Biphenyls (PCBs), Metals
Affected Media of Concern: Soil, Groundwater
Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC), Action Memorandum: 2006/2006/2007
Funding to date (up to FY05): $7,551,000
Current year funding (FY06): $0
Cost-to-Complete (FY07+): $125,000

Installation Historic Activity

The DA acquired approximately 43,000 acres of agricultural and residential land in 1941. Training of U.S. Army Signal Corps soldiers began in 1942. A Prisoner of War Internment Camp opened in 1943. The installation was deactivated in 1946, but was reactivated in 1951 as an Army Reception Center during the Korean Conflict, and as a Branch Disciplinary Barracks from 1953 to 1958. The government-owned/contractor-operated Air Force Plant No. 65 was a major tenant from approximately 1956 to 1973.

Parcels of land were dispersed to private and public sectors several times since 1946. MOARNG has maintained a license from DA for use of various portions since 1946. At 4,300 acres, Camp Crowder now consists of portions of the original cantonment, firing range, and magazine areas, and the Engine Test Area of former Air Force Plant No. 65.

The Signal Corps training mission included storage and handling of munitions, explosives, and chemicals, and maintenance of vehicles and arms. Gasoline was stored in underground storage tanks (USTs) at gasoline stations in the vehicle maintenance areas (CC-003). Also during this period, municipal waste was incinerated (CC-002), and the ashes were dumped in a remote area (CC-001). Vehicle maintenance also occurred during the 1950s.

Activities of the former Air Force Plant No. 65 occurred at four sites, including the Manufacturing Plant, Building 900, the Components Test Area (CTA), and the Engine Test Area (ETA). Only the ETA (CC-004) is currently located on federally owned (Camp Crowder) property. Rocketdyne Corporation operated the ETA from 1956 to 1968, when it was closed and abandoned. The ETA was used to test fire liquid-propelled rocket engines at two test stands. Fuel was stored at a fuel farm, and pumped to the test stands. After the engines were fired, fuel and lubricant systems were flushed with trichloroethylene (TCE) into a Hazardous Waste Pit and several open lagoons.

CURRENT ACTIVITY: Camp Crowder is an active Missouri Army National Guard (MOARNG) Training Site. The facility is owned by the Department of the Army (DA) and licensed to MOARNG. The installation is not scheduled for closure.

IRP

- Prior Year Progress: In 1986 the USEPA conducted a PA/SI at the “Crowder College Test Site,” which consisted of the CTA and ETA (CC-004) areas. Minor concentrations of polychlorinated biphenyls (PCBs) were found in surface soil at the ETA. It was later thought that these sample results were not representative of site conditions, since the area had been disturbed and only surface-soil samples were taken. In 1991, the U.S. Army Corps of Engineers (USACE) conducted a SI under the FUDS program at the “Rocketdyne Test Site,” which also consisted of the CTA and ETA areas. This investigation found significant levels of chlorinated solvents in subsurface soil and ground water at both areas. In 1995, USACE removed four

USTs from the Fuel Farm at the ETA. USACE planned further investigations at the site, but suspended work after determining that FUDS was not an appropriate mechanism.

Beginning with a complaint from a nearby well owner in July 1994, MDNR and USEPA identified a large area of ground-water contamination. TCE and its degradation product cis-1,2-dichloroethylene (DCE) are the predominant contaminants detected in residential drinking-water wells. Subsequent investigations identified the four Air Force Plant No. 65 sites as probable sources. A Removal Assessment conducted in 1996 by USEPA included one soil boring inside the former Hazardous Waste Pit at the ETA. Discovery of free product in the pit indicated the need for a removal action at this site. NGB initiated activities at the ETA in 1997, completed an IRA in 2000, and completed a Source Area Assessment (SAA) in 2003. At NGB's request USACE re-validated the SAA analytical database and prepared a modified database for future use of the data. An EE/CA for a second source removal action is currently underway; the Revised Draft version was completed 4 March 2005. This will be used in the development of the remedial approach by the contractors for the PBC.

USAEC conducted field research at Camp Crowder from 1997 to 2003. The objectives were to test the applicability of geophysical methods for hydrogeologic characterization in karst environments, and to provide additional hydrogeologic characterization for the ETA. This work consisted of four projects including lineament trace analysis, surface geophysics, airborne geophysics, and borehole geophysics.

MOARNG conducted a site-wide PA in 1995, which recommended further study at thirteen areas of potential concern. Subsequent additional information, including historical maps and construction drawings, resulted in better definition of historical activities and their locations. Three sites, in addition to the ETA (CC-004), were identified in Army Environmental Database - Restoration (AEDB-R) for further evaluation. NGB completed a SI at CC-001, CC-002, and CC-003 in 2001. A Supplemental SI (SSI) was completed in January 2004 at these same sites. A round of groundwater samples were collected in January 2004 at the Hillside Dumpsite (CC-001). A round of groundwater samples were collected in February 2004 at the ETA (CC-004). A round of groundwater samples were collected in February/March 2005 at the Hillside Dumpsite (CC-001). A round of groundwater samples were collected in February/March 2005 at the ETA (CC-004).

- Future Plan of Action: Work at the four sites at Camp Crowder is being conducted under a PBC. The PBC was awarded in fourth quarter FY05. The PBC includes work at the
  Hillside Dumpsite (CC-001)
  Incinerators/Ash Piles (CC-002),
  Vehicle Maintenance Areas (VMA) (CC-003), and
  Engine Test Area (ETA) (CC-004).

CAMP CROWDER TRAINING SITE

Installation Restoration Program

Total AEDB-R IRP Sites / AEDB-R sites with Response Complete: 4/0

Different Site Types:
1 Surface Disposal Areas 1 Incinerator 1 Maintenance Yard
1 Surface Impoundment/Lagoon

Most Widespread Contaminants of Concern: Volatile Organic Compounds (VOCs), Petroleum Oil and Lubricants (POLs), Polychlorinated Biphenyls (PCBs), Metals

Media of Concern: Soil, Groundwater

Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA:
1999 - REM and IRA at 1 site (CC-004) - $834K

Total IRP Funding

Prior years (up to FY05):	$ 7,551,000
Current year funding (FY06	$ 0
Future Requirements (FY07+):	$ 125,000
Total:	$ 7,676,000

Duration of IRP:
Year of IRP Inception: 1995
Year of IRP RIP/RC: 2007
Year of IRP Completion including Operations and Maintenance of Remediation Systems: 2010

IRP Contamination Assessment Overview

In 1986 the USEPA conducted a PA/SI at the "Crowder College Test Site," which consisted of the CTA and ETA (CC-004) areas. Minor concentrations of polychlorinated biphenyls (PCBs) were found in surface soil at the ETA. It was later thought that these sample results were not representative of site conditions, since the area had been disturbed and only surface-soil samples were taken. In 1991, the U.S. Army Corps of Engineers (USACE) conducted a SI under the FUDS program at the "Rocketdyne Test Site," which also consisted of the CTA and ETA areas. This investigation found significant levels of chlorinated solvents in subsurface soil and groundwater at both areas. In 1995, USACE removed four USTs from the Fuel Farm at the ETA. USACE planned further investigations at the site, but suspended work after determining that FUDS was not an appropriate mechanism.

Beginning with a complaint from a nearby well owner in July 1994, MDNR and USEPA identified a large area of ground-water contamination. TCE and its degradation product cis-1,2-dichloroethylene (DCE) are the predominant contaminants detected in residential drinking-water wells. Subsequent investigations identified the four Air Force Plant No. 65 sites as probable sources. A Removal Assessment conducted in 1996 by USEPA included one soil boring inside the former Hazardous Waste Pit at the ETA. Discovery of free product in the pit indicated the need for a removal action at this site. NGB initiated activities at the ETA in 1997, completed an IRA in 2000, and completed a Source Area Assessment (SAA) in 2003. At NGB's request USACE re-validated the SAA analytical database and prepared a modified database for future use of the data. An EE/CA for a second source removal action is currently underway; the Revised Draft version was completed 4 March 2005. This will be used in the development of the work plans by the contractors for the PBC.

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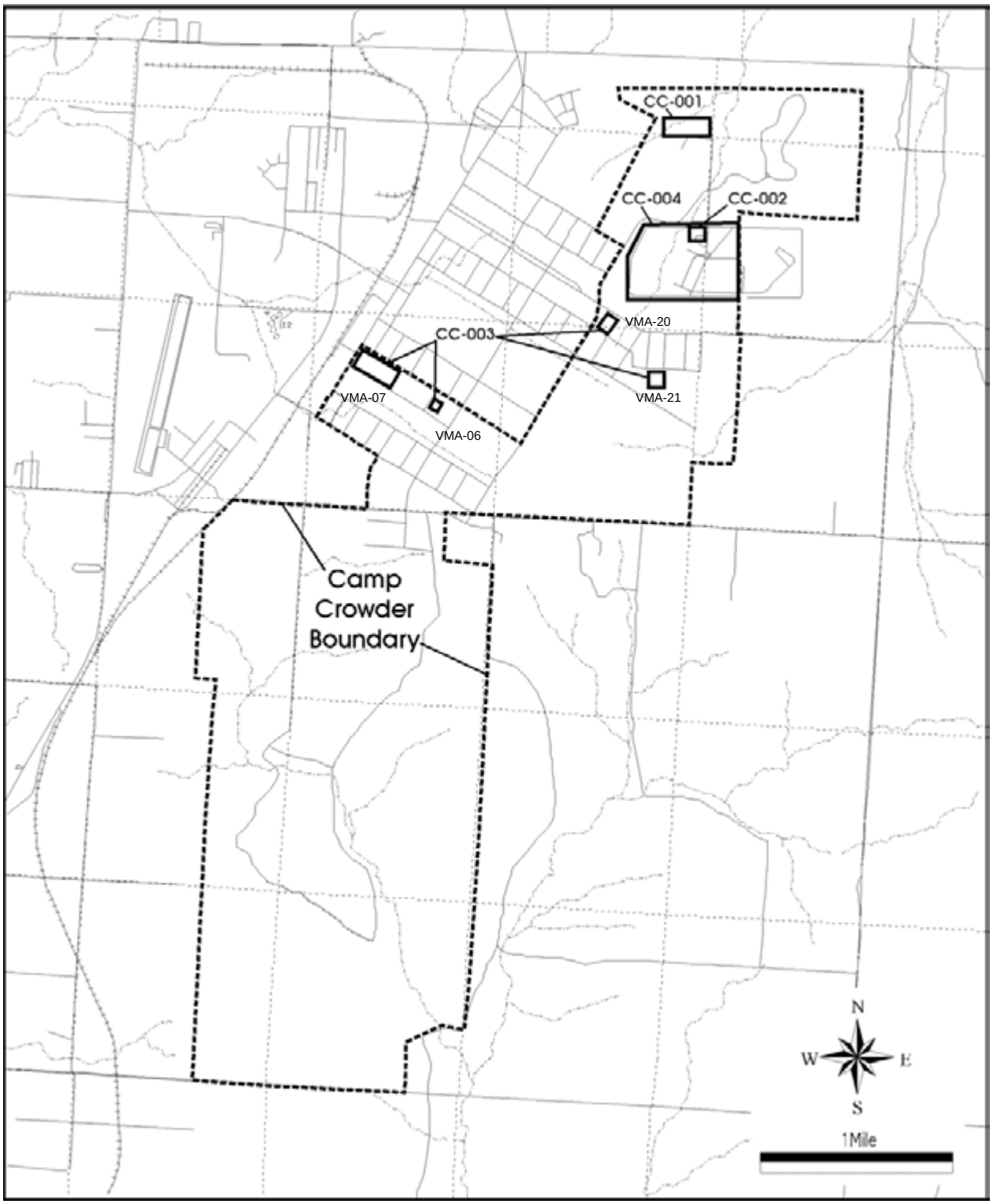
MOARNG conducted a site-wide PA in 1995, which recommended further study at thirteen areas of potential concern. Subsequent additional information, including historical maps and construction drawings, resulted in better definition of historical activities and their locations. Three sites, in addition to the ETA (CC-004), were identified in Army Environmental Database - Restoration (AEDB-R) for further evaluation. NGB completed a SI at CC-001, CC-002, and CC-003 in 2001. A Supplemental SI (SSI) was completed in January 2004 at these same sites. A round of groundwater samples were collected in January 2004 at the Hillside Dumpsite (CC-001). A round of groundwater samples were collected in February 2004 at the ETA (CC-004). A round of groundwater samples were collected in February/March 2005 at the Hillside Dumpsite (CC-001). A round of groundwater samples were collected in February/March 2005 at the ETA (CC-004).

IRP Cleanup Exit Strategy

Camp Crowder is part of a PBC with Fort Chaffee, AR. The PBC was awarded in fourth quarter of FY05. The PBC includes work at the following sites at Camp Crowder

- Hillside Dumpsite (CC-001)
- Incinerators/Ash Piles (CC-002),
- Vehicle Maintenance Areas (VMA) (CC-003)
- Engine Test Area (ETA) (CC-004).

IRP Contamination Assessment



Site locations are identified by AEDB-R numbers

Previous Studies

1999
• Community Relations Plan – Guild - Feb

2000
• Site Inspection Report – USACHPPM - Oct

2001
• Addendum to SI report – UASCHPPM - Jun

2003
• SAA Report – EEG - Dec

2004
• Supplemental SI report – USACHPPM – Jan
• HDS Groundwater Sampling Report – USAEC – Jan
• Comment Letter from Missouri DHSS to MDNR - Jan
• Response Letter from NGB to MDNR – NGB – May
• Decision Document, Hazardous Waste Pit IRA – NGB – Feb
• Modified SAA Database – USAEC – Jan
• ETA February 2004 Groundwater Sampling Report – BMcD - Apr
• Pilot Study Report – BMcD - May

2005
• Draft EE/CA – ECC/BMcD - Feb

2006
• Draft Non-NPA site Action Memorandum – ECC/BMcD - Mar

CAMP CROWDER TRAINING SITE

Installation Restoration Program Site Descriptions

CC-001
HILLSIDE DUMPSITE

SITE DESCRIPTION

CC-001 is located in the northwestern corner of Camp Crowder. It includes what was called Dumpsite 1 in the PA. The dumping appears to have occurred on the side of a hill, along the base of the hill, and on the floodplain of a small intermittent stream channel. The site may cover up to several acres. Identified materials include ashes, bottles, china, metal, drums, batteries, concrete, wire, burned trees, and stressed soil and vegetation. Dates on the bottles and china indicate that active dumping occurred in the early 1940s. The ashes and burnt material are consistent with waste from the incinerators (CC-002). Portions of the dumpsite were apparently covered with soil, and the site is now overgrown with vegetation. The area currently is used for land navigation training.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN: VOCs, POL, Metals

MEDIA OF CONCERN: Soil, Groundwater

PHASES	Start	End
PA	199505	199510
SI	199803	200409
RD	200510	200602
RA(C)	200602	200609
RA(O)	200603	201009

RIP Date: 200609
RC Date: 201009

A SI was completed at this site in 2001, and a SSI was completed in January 2004. Continuing discussions with MDNR. Surface soil, subsurface soil, sediment, and groundwater were sampled and analyzed for VOCs, TPH, and metals. Metals and minor concentrations of POLs were detected in surface soil, consistent with observed waste materials. Some metal concentrations in groundwater appear to be elevated, but may be due to high turbidity. A round of ground-water sampling for total and dissolved metals was conducted in January 2004. The results indicate concentrations of total and dissolved metals were below state screening levels. Another round of ground-water sampling for total and dissolved metals was conducted in February/March 2005.

CLEANUP STRATEGY

Considering current and anticipated usage, the site poses little threat via soil exposure. If groundwater is not impacted, it is recommended that the site be closed. Since residual metal concentrations in soil are above residential screening levels, LUCs will be implemented during site closure in FY06. Groundwater will be addressed as part of the Pools Prairie Superfund Site Remedial Investigation (RI). The funding source for the RI has not been determined.

CC-002
INCINERATORS/ASHPILES

SITE DESCRIPTION

Three incinerators, located in northern Camp Crowder, were built in 1941 and used during the 1940s. Garbage was burned in the incinerators, and garbage cans were washed inside the buildings. Ashes and burnt materials apparently were transported to the Hillside Dumpsite (CC-001). Wash water drained to a septic system. The site became a part of the Engine Test Area from 1956 to 1968, during which the buildings were used for storage. Since being licensed to MOARNG, the area has been used for training exercises. Site CC-002 specifically addresses contamination associated with 1940s incinerator activities.

Ashes were observed around the incinerators many years ago, but the area has since been graded. An adjacent ravine was observed during the PA to contain ash, metal, concrete, two leaking 55-gallon oil drums, and stained soil. The drums and stained soil were subsequently removed and properly disposed by MOARNG personnel.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
PA	199505	199510
SI	199803	200409
RD	200510	200602
RA(C)	200602	200609

RC Date: 200609

A SI was completed at this site in 2001. The ETA Source Area Assessment included two soil borings and two rounds of ground-water sampling at this site in 2001 and 2002. A SSI was completed in January 2004.

Surface soil, subsurface soil, sediment, and groundwater were sampled. Elevated concentrations of metals, primarily lead, were detected in surface soil samples near the clean-out doors, consistent with observed waste materials. VOCs were not detected in soil samples, and soil at this site is not considered a source of VOCs. However, three VOCs (TCE, DCE, and vinyl chloride) were detected in groundwater. These are primary contaminants of concern at the ETA, and are considered to be a result of activities elsewhere at the ETA.

CLEANUP STRATEGY

The site provides valuable training opportunities for MOARNG. A minor shallow soil removal action is planned for FY06. VOCs in groundwater should be managed in conjunction with ETA restoration activities. Groundwater will be addressed as part of the Pools Prairie Superfund Site RI. The funding source for the RI has not been determined.

CC-003
VEHICLE MAINTENANCE AREAS

SITE DESCRIPTION

Four former vehicle maintenance areas (VMA-06, VMA-07, VMA-20, and VMA-21) are located in central Camp Crowder. They consisted of large open motor storage areas, motor repair shops, oil storage houses, wash racks, and grease racks. Three of them also had gas stations (VMA-06, VMA-07, and VMA-21). They were built in 1941 and were used during the 1940s. The buildings and equipment were excessed, but some of the concrete pads remain in place. VMA-06 currently contains Building 106 and a storage yard. The building sits on top of the gas station fuel dispenser area. VMA-07 currently contains OMS-13. This facility was originally built in 1955. A new facility was built in 2001, and the old facility was demolished in 2003. VMA-20 currently contains a fuel truck storage and containment pad. VMA-21 is unused.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN: POLs

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	199505	199510
SI	199808	200409
RD	200510	200602
RA(C)	200602	200609

RC Date: 200609

Petroleum, oils, and lubricants, and solvents were handled at the repair shops. Fuel, most likely leaded gasoline, was stored and handled at the gas stations. The PA reported the possible existence of USTs at fire stations and vehicle maintenance areas. The locations and construction details of the fire stations, repair shops, and previously unrecognized gas stations have since been identified from Master Plan Books and construction drawings. There are no indications of former USTs or training activities associated with the fire station locations, and they are no longer considered to be areas of concern.

A SI was completed at this site in 2001, and SSI was completed in January 2004. Surface soil and subsurface soil were sampled. It was determined that the USTs at the three gas stations are no longer present, but the piping remains. Elevated levels of POLs and lead were detected in sediment within the gas station valve pits, the repair shop floor drains, and an oil house sump pit. These sediments were removed and the pits and drains were filled with concrete. Minor levels of POLs and lead were detected in soil samples at all four VMAs. Elevated levels of POLs and lead were detected in surface soil in a roadside ditch next to OMS-13. However, subsequent sampling by MOARNG could not duplicate the results.

At VMA-06, one subsurface soil sample had a TPH concentration greater than the LUST soil cleanup level but less than the CALM industrial level. This sample was collected from under the concrete under Building 106. At VMA-07, one subsurface soil sample also had a TPH concentration greater than the LUST soil cleanup level but less than the CALM industrial level. Adjacent samples indicate this contamination is very localized. The

significance of these results was discussed with MDNR. At VMA-20 and VMA-21, all contaminant concentrations are below screening levels.

Discussions were held between NGB/USAEC, MDNR, USEPA, and Missouri Department of Health and Senior Services (DHSS) concerning the VMAs. MDNR requested DHSS review the SI and SSI reports and comment. DHSS had concerns about the completeness of the investigations of the VMAs. All concerns raised by the DHSS were addressed at a meeting and site visit conducted on 13 October 2004 and reviewing historic base plans (as-builts) of the VMAs. DHSS sent a letter to MDNR indicating all their concerns have been addressed. No additional investigation or remediation is required at VMA-06, VMA-20 or VMA-21.

CLEANUP STRATEGY

Considering the protection afforded by the concrete pad at VMA-06, the site poses little threat via soil exposure. MOARNG currently plans to build a new armory at VMA-07. The concrete apron, fuel piping, and associated soil be removed and the site closed in FY06. VMA-20 and VMA-21 are recommended for closure.

CC-004
ENGINE TEST AREA

SITE DESCRIPTION

The ETA consists of about 120 acres in northern Camp Crowder. A perimeter road defines the north, west, and south boundaries. The eastern property boundary separates the ETA from the adjacent CTA on private property to the east. The Incinerators/Ash Piles (CC-002) site is located within the ETA boundaries. Soil contamination resulting from 1940s site use (metals) is addressed as CC-002. Groundwater contamination underlying CC-002 but emanating from the Engine Test Area (VOCs) will be addressed as part of CC-004. The PA identified an AST containing road oil in the northwestern corner of the ETA as an area of concern, but it is currently being used by MOARNG, is not eligible for ER, A funding, and is not included in this AEDB-R site.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN: VOCs, POLs, PCBs

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
PA	199505	199510
SI	199607	199712
IRA	199709	200709
RA(O)	200709	201209
RA(C)	200602	200709

RIP: 200709
RC Date: 201209

The ETA is Operable Unit 1 (Source 1) of the Pools Prairie Superfund Site, which addresses VOC contamination of groundwater. Offsite well sampling by USEPA and USACE indicates the presence of a contaminant plume extending more than two miles north of the ETA and other source areas. NGB is the lead Federal agency for removal activities at the ETA. The USACE FUDS Program is the Federal government representative for removal activities on other portions of the Pools Prairie Site. The various PRPs are conducting investigations and source removal actions at other Pools Prairie sites. The parties are currently scoping a site-wide remedial investigation to characterize groundwater conditions.

The focus of most of the studies at the ETA has been the Hazardous Waste Pit and associated lagoons, located in an intermittent stream valley of about 30 acres. Disposed wastes included solvent (TCE), rocket fuel (RP-1), and hydraulic and lubricant oils. The primary contaminants of concern are TCE and its degradation products DCE and vinyl chloride, but POLs and PCBs are also present. Concentrations in soil and groundwater are above regulatory action levels. A REM was completed in 1995 to remove four USTs at the fuel farm. An IRA was completed in 2000 at the Hazardous Waste Pit that included removal of liquids, installation of a temporary cap, and installation of drainage controls to reduce migration in groundwater.

USAEC conducted hydrogeologic studies, including a lineament trace analysis, and surface, airborne, and borehole geophysical techniques. Its purpose was to test non-intrusive methods to better understand hydrogeologic controls on groundwater pathways and contaminant migration.

A limited RI (Source Area Assessment) was completed in 2003. Additional potential soil source areas, including two test stands, a test shop, and an AST, were identified and delineated. A Pilot Study was conducted during the summer of 2003 to evaluate potential removal technologies. The Revised Draft version of the EE/CA was completed March 2006. The EE/CA was used in the development of the removal approach by the contractors for the PBC.

CLEANUP STRATEGY

A second IRA at the Hazardous Waste Pit is planned for FY06 through FY07. Final remedies for soil sources will likely include an ex-situ removal action alternative, landfarming. The selected removal action alternative will be documented in an Action Memorandum. Contamination in groundwater in the karst limestone aquifer is currently insufficiently characterized to anticipate a remedy. Groundwater at the ETA will be included in the Pools Prairie Superfund Site RI. The funding source for this investigation has not been determined. The operations and maintenance of the remediation system will be preformed under the PBC.

IRP Schedule

Initiation of IRP: 1995

Past Phase Completion Milestones

1995	
• PA Completion at all sites	Oct
1996	
• REM of USTs at CC-004	Dec
1997	
• SI Completion at CC-004	Mar
2000	
• IRA Completion at CC-004	Oct
2001	
• SI Completion at CC-001, CC-002, CC-003	Jun
2003	
• Source Area Assessment at CC-004	Dec
2004	
• Supplemental SI Completion at CC-001, CC-002, CC-003	Jan
2006	
• EE/CA Completion at CC-004	Mar

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates: 2006

Projected Construction Completion Date of IRP: 2007

Projected Date for Removal from NPL: TBD

Schedule for Next Five-Year Review: 2010

Estimated Completion Date of IRP (including LTM phase): 2012

Camp Crowder Training Site IRP Schedule

(Based on current funding constraints)

AEDB-R#	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
CC-004	RA(O)									

Prior Years Funds

Total Funding up to FY04: $3,729K

(may be listed by project instead of site)

Year	Site Information	Expenditures	FY Total
FY05	PBC CC-001, CC-002, CC-003, CC-004	$3,822K	**$3,822K**

Total Prior Year Funds: **$7,551K**

Current Year Requirements

Year	Site Information	Expenditures	FY Total
FY06		$0K	**$0K**

Total Future Requirements: **$125K**

Total IR Program Cost *(from inception to completion of the IRP):* **$7,676K**

STATUS OF COMMUNITY INVOLVEMENT

There currently is not a RAB specifically associated with the IRP at Camp Crowder. There is, however, a CAG associated with the Pools Prairie Superfund Site. The CAG was formed in 1996 with the support of the USEPA. A representative of USAEC and NGB attends meetings and keeps CAG members informed of progress at all Camp Crowder IRP sites.

DETERMINING COMMUNITY INTEREST IN A RAB

A CRP was completed in February 1999. During development of the CRP, interviews with community members indicated that they would be willing to participate in a RAB only if it involved significant environmental issues. They further indicated little interest in IRP sites other than the ETA. Therefore, a RAB would be largely duplicative of a CAG at this time, and could even do a disservice by fractionating the CAG membership.

It is realized that interests can change with time, and that a RAB may be appropriate at some future date. A community survey will be attempted again when changes in the status of either the IRP or Pools Prairie Superfund Site might precipitate a change in community interest. This will be accomplished using the mailing list compiled by the CRP, fact sheets, and newspaper articles.

INTEREST IN TAPP

Potential interest in TAPP has not been addressed to date, nor have any potential TAPP projects been identified.